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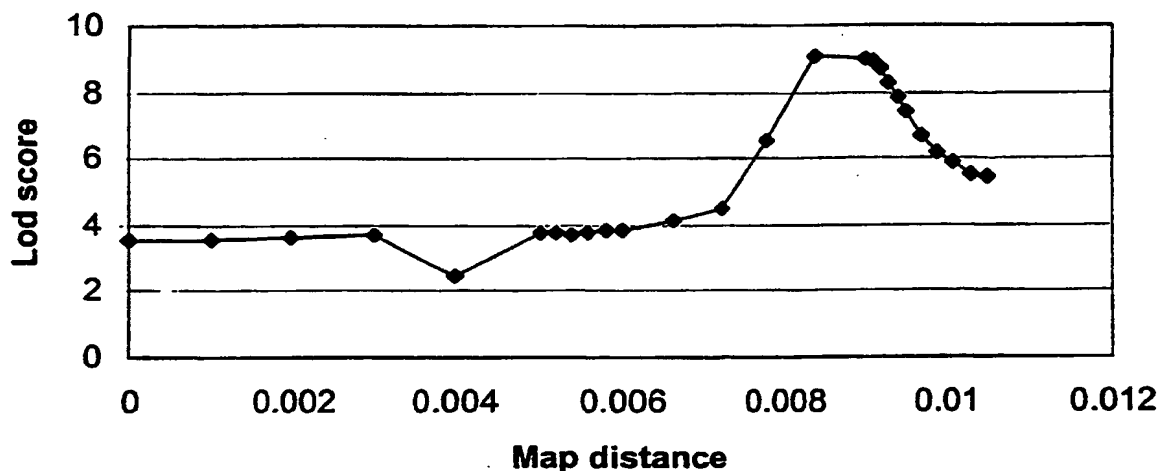
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[Continued on next page]

(54) Title: VARIANTS OF THE GAMMA CHAIN OF AMPK, DNA SEQUENCES ENCODING THE SAME, AND USES THEREOF



(57) Abstract: The invention concerns variants of the gamma chain of vertebrate AMP-activated kinase (AMPK), as well as nucleic acid sequences encoding said variants and use thereof for the diagnosis or treatment of dysfunction of energy metabolisms.

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— *Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference MJPcb539/99	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/EP 00/09896	International filing date (day/month/year) 11/09/2000	(Earliest) Priority Date (day/month/year) 10/09/1999
Applicant INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE...		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :



contained in the international application in written form.



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the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.

1



None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

EP 00/09896

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/54 C12N15/11 C12N9/12 C12Q1/68 A01K67/027
G01N33/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C12Q A01K G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

STRAND, EMBL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HILLIER ET AL.: "WashU-NCI human EST project" EMBL DATABASE ACC NO: AA178898, 1 January 1997 (1997-01-01), XP002130593 cited in the application abstract	1-5, 11-17
X	ROBIC ET AL.: "A radiation hybrid map of the RN region in pigs demonstrates conserved gene order compared with the human and mouse genomes" MAMMALIAN GENOME, vol. 10, no. 6, June 1999 (1999-06), pages 565-568, XP000876695 cited in the application page 565	29-33
A	page 567; figure 1; table 1	1-28, 32-37

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

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International Application No.

EP 00/09896

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 25341 A (ST VINCENTS INST MED RES ;DARTMOUTH COLLEGE (US); KEMP BRUCE E (AU) 17 July 1997 (1997-07-17) page 18, line 21 - line 34 page 25, line 1 -page 28, line 5 claims 16-21	13-15
A	---	1-12, 16-37
X	WO 98 58052 A (INCYTE PHARMA INC ;CORLEY NEIL C (US); BANDMAN OLGA (US); GOLI SUR) 23 December 1998 (1998-12-23) SEQ ID NOs 7 & 14 page 18, line 21 -page 19, line 8 page 38, line 6 -page 44, line 29 claims 1-24; figure 7	13-15
A	---	1-12, 16-37
X	WATERSTON: "Homo sapiens chromosome unknown clone NH0459I19" EMBL DATABASE ACC NO: AC009974, 9 September 1999 (1999-09-09), XP002130594 abstract	11-16
X	---	
X	HILLIER ET AL.: "The WashU-Merck EST Project" EMBL DATABASE ACC NO: W94830, 17 July 1996 (1996-07-17), XP002130595 abstract	11-16
A	---	
A	MILAN ET AL.: "Accurate mapping of the "acid meat" RN gene on genetic and physical maps of pig chromosome 15" MAMMALIAN GENOME, vol. 7, no. 1, January 1996 (1996-01), pages 47-51, XP000876743 cited in the application page 50, column 2 -page 51, column 1; figure 1	1-35

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INTERNATIONAL SEARCH REPORT

International Application No.

EP 00/09896

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	<p>CHEUNG ET AL.: "Characterization of AMP-activated protein kinase gamma-subunit isoforms and their role in AMP binding" BIOCHEMICAL JOURNAL, vol. 346, no. 3, 15 March 2000 (2000-03-15), pages 659-669, XP002162237 figures 2,3,5; tables 1,2 -& DATABASE EMBL 'Online!' EBI; ACC. NO.: AJ249977, 7 January 2000 (2000-01-07) CARLING : "Homo sapiens mRNA for AMP-activated protein kinase gamma 3 subunit (AMPK gamma 3 gene)" XP002162239 abstract</p>	1-4, 11-17, 20,37
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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